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The Subconscious Effect of Subtle Media Bias on Perceptions of Terrorism*

Lukas Feick[1], Karsten Donnay[2], and Katherine T. McCabe[3]

[1]*Department of Politics and Public Administration, University of Konstanz*
[2]*Department of Political Science, University of Zurich*
[3]*Political Science Department, Rutgers University*

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Abstract

Media outlets strategically frame news about violent events using sensationalist labels such as "terrorist" or "Islamist" but also more subtle wording choices that affect the overall article tone. We argue theoretically and show empirically using a conjoint experiment that, contrary to existing studies, the effect of these two framing devices on readers' perceptions of terrorist events should be carefully separated. Even though article tone transports no factual information, in our experiment negative and sensational wording choices carried a greater impact on threat perceptions than the explicit "terrorist" and "Islamist" labels. In a realistic news article setting, which varied other salient context cues such as proximity or event size, subtle shifts in article tone still subconsciously influenced threat perceptions. This highlights the potential dangers of media coverage fueling otherwise unjustified fears by injecting unnecessary editorial tone.

Keywords: media bias, framing, labeling, public opinion, conjoint analysis

*Corresponding author: Karsten Donnay, donnay@ipz.uzh.ch.

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Introduction

The use of specific words or expressions in news media coverage affects the degree to which their audiences perceive certain violent events as threatening. As a case in point, consider the 2018 surge in homicides in London: While *The Guardian* reported "London killings in 2018: how homicides in the capital rose to a decade high," other headlines on the topic read "London BLOODBATH" (*Express*), "Carnage in the capital" (*Daily Mail*), and "London Bloodsoaked After Five Stabbings in 24 Hours" (*NewsWars*). Correspondingly, the extent of threat and urgency we associate with the same event varies with the way it is reported on, or *framed*, and can play a substantial role in triggering or sustaining dynamics of insecurity felt by the public (Baele et al. 2019: 520).

This paper uses a survey experiment on a U.S. sample of respondents to quantify how variation in media framing influences perceptions of personal threat of violent events. Specifically, we embed a set of labeling and wording choices in a multivariate survey experiment alongside a range of contextual factors—location, death toll, and type of a reported attack. This design is chosen to capture the full complexity of actual media reporting where individuals are exposed to coverage that can vary along all of these dimensions. Our strategy allows us to isolate which specific aspects of the coverage affect how personally threatening a person views an incident, on average, while allowing for the fact that different article cues may also vary, as they would across actual media coverage.

We find that the probability that an incident is perceived as more personally threatening *increases*, on average, if article tone is more negative and sensational, the event is geographically proximate and large in size. Even though article tone transports no factual information, in our experiment these wording choices carried a greater impact on threat perceptions than many types of factual information and explicit "labeling" choices included in news stories. The results have several implications for the potential impact of media coverage on public opinion, as well as normative implications for the role of media in society.

Existing Evidence and Theoretical Framework

There exists a rich literature examining the relationship between incidents of violence and their coverage in the media. Studies have considered the effects of the labels used to describe the perpetrators of an incident (Baele et al. 2019; Montiel and Shah 2008), the location where it took place (Finseraas and Listhaug 2013; Fischhoff et al. 2003), the severity in terms of casualties (Boettcher and Cobb 2016), and the attack type (Huff and Kertzer 2018). These studies—with the exception of Huff and Kertzer (2018)—test only one such component at a time. By contrast, we investigate which (combination) of these components, both discretionary and contextual, provokes the highest threat perception.

We also deviate from prior work (e.g. Baele et al. 2019; Montiel and Shah 2008) in drawing an important conceptual distinction between the overall article tone and the use of specific labels describing article subjects. The use of different labels can act as frames that alter the emphasis of what sets of considerations are relevant when people read an article, shaping their attitudes (Druckman 2011). For example, different labels may influence whether the public sees an incident as terrorism (Huff and Kertzer 2018).

We follow De Vreese et al. (2011) and Chong and Druckman (2007) in arguing that valence or tone of framing devices also matter and that negatively valanced frames may have particularly strong attitudinal effects. Specifically, we study when article tone is set—not by valence of specific labels (e.g., "Islamist" or "terrorist")—but by deliberate use of negative and sensationalist adjectives similar to the coverage on the London homicides referenced above. In article vignettes, we vary the presence of multiple adjectives (e.g., "horrible," "heinous") that have been shown to communicate negative sentiment and emotions of fear and anger in lexicons validated for use in dictionary-based sentiment analyses (Mohammad and Turney 2013; Hu and Liu 2004). There is a wide body of literature focused on capturing the *tone* of media content, particularly regarding political campaigns, economic developments, sensationalist reporting of disasters (Walters et al. 2016), and the "emotionality" of coverage of political violence (Young and Soroka 2012).

The conceptual distinction between article tone on the one hand and the use of specific labels on the other is rarely disentangled in a single setting—a gap we seek to close in this study. Media have significant latitude in both choosing which kind of language and which specific labels to use when reporting on acts of violence (Huff and Kertzer 2018) and may do so for monetary, political, or other motives. The resulting biased coverage may actually be aiding the terrorists' cause by spreading fear and intimidation to a broader audience beyond the immediate victims of their attacks (Hoffman 2006).

Experimental Design and Hypotheses

This study employs a conjoint analysis as described in Hainmueller et al. (2014) to test how media framing influences threat perceptions. We employ a fully randomized "paired profiles" design, where two press clippings describing violent incidents are presented to a respondent, one below the other.[1] The articles were presented to respondents in the form of short plain-text paragraphs (see Online Appendix D for details). Respondents were asked to indicate which of the two incidents they personally perceived as "more threatening" and to indicate the degree of threat that they associate with both incidents, respectively, on a 7-point Likert scale ranging from 1 (not at all threatening) to 7 (very threatening). They were also asked to assess which of the two press clippings they thought was "more objective." This measure of the source's perceived objectivity (see, e.g., Austin and Dong 1994) provides an independent measurement for whether labels and article tone were recognized as deliberate framing devices.

Table 1 shows the attributes and levels which were used to randomly generate the press clippings. We focus here on two very prevalent and much contested labels used in the media to describe perpetrators of violent events: terrorist and Islamist. Drawing on the normative charge associated with these terms, we expect that use of these labels impacts perceptions. Specifically, we expect that *respondents will find events less threatening when the perpetrators of an act of violence are neutrally described as "attackers," versus the normatively charged "terrorists" or "Islamists," (H1)*, which are often conflated in coverage of "Islamist terrorism."

Attributes	Attribute levels
Tone	• Neutral • Negative (e.g. "terrible," "dreadful," or "atrocious")
Label	• Attackers • Terrorists • Islamists
Location	• Baghdad, Iraq • Paris, France • Washington, D.C.
Severity	• killed no one but critically wounded at least five people • killed eight people and critically wounded at least a dozen more • killed at least 34 people and critically wounded more than 20 others
Type	• stormed the building carrying assault rifles and immediately opened fire • secretly planted an explosive device in a trash can and detonated it on-site • deliberately drove a cargo truck into a crowd of people outside the building

Table 1: Attributes and levels used to randomly generate press clippings.

We also expect respondents to be affected by article tone, specifically the use of negative or sensationalist adjectives such as "atrocious" or "horrific" (see Online Appendix D for details). Article tone not only draws readers' attention to the negative aspects of the incident but recent work in psychology has also found that "exposure to news content using vivid, negatively toned language for attention-grabbing purposes is associated with detrimental changes in readers' mental health symptom severity" (Wormwood et al. 2018: 10). We therefore argue that *negative and sensationalist article tone will invoke a higher threat perception (H2).*

In addition to these discretionary elements of news coverage, we also simultaneously test the impact of three contextual factors, namely the location, death toll, and type of attack. In general, we anticipate that *an incident is perceived as more threatening the closer it occurs to one's own place of residence, the more people die in the attack, and the more severe the type of attack (H3)* (e.g., Woods et al. 2008; Huff and Kertzer 2018).[2]

Data and Results

U.S. survey respondents were recruited online using Amazon's *Mechanical Turk* (MTurk) from February 18, 2019 to February 26, 2019 with 576 respondents.[3] Each survey respondent was randomly presented with three pairs of distinct fictional press releases describing an attack on civilians (see Online Appendix D for details), each containing randomized variations according to the attributes and levels in Table 1 resulting in a total number of $N = 3456$ observations (we removed a small number of cases due to item non-response).

Following Hainmueller et al. (2014), we estimate *Average Marginal Component Effects* (AMCEs), which express the effect of a distinct attribute, on average, marginalizing over the joint distribution of the other attributes in the study. Figure 1 shows the AMCE estimates of each attribute level for the full sample of respondents. When assessing the perceived threat of an incident, on average, respondents do not perceive events as more or less threatening depending on how perpetrators are described, contrary to H1.[4] In contrast and in support of H2, negative and sensationalist article tone, on average, leads to a roughly 8 percentage point increase in the probability that the incident is perceived as more threatening than one which uses neutral language.

In addition, we find strong empirical support for H3: The probability that an incident is perceived as threatening significantly increases with its death toll. Likewise, the threat associated with an incident rises with its spatial proximity to the target audience of U.S. respondents. We do not find support for an effect of event type. Note that both outcomes (forced-choice and rating) yield similar effect estimates for all three hypotheses, i.e., no matter how threat perception is operationalized, the findings remain consistent.

In order to understand our differential findings for H1 and H2, we additionally consider "perceived objectivity" as a measure for whether each framing device was recognized by our respondents. Figure 2 shows that perceived objectivity for article tone decreases by roughly 21 percentage points, and for the "terrorist" and "Islamist" labels by 7 and 15 percentage points indicating that both were indeed recognized.[5] We always elicited per-

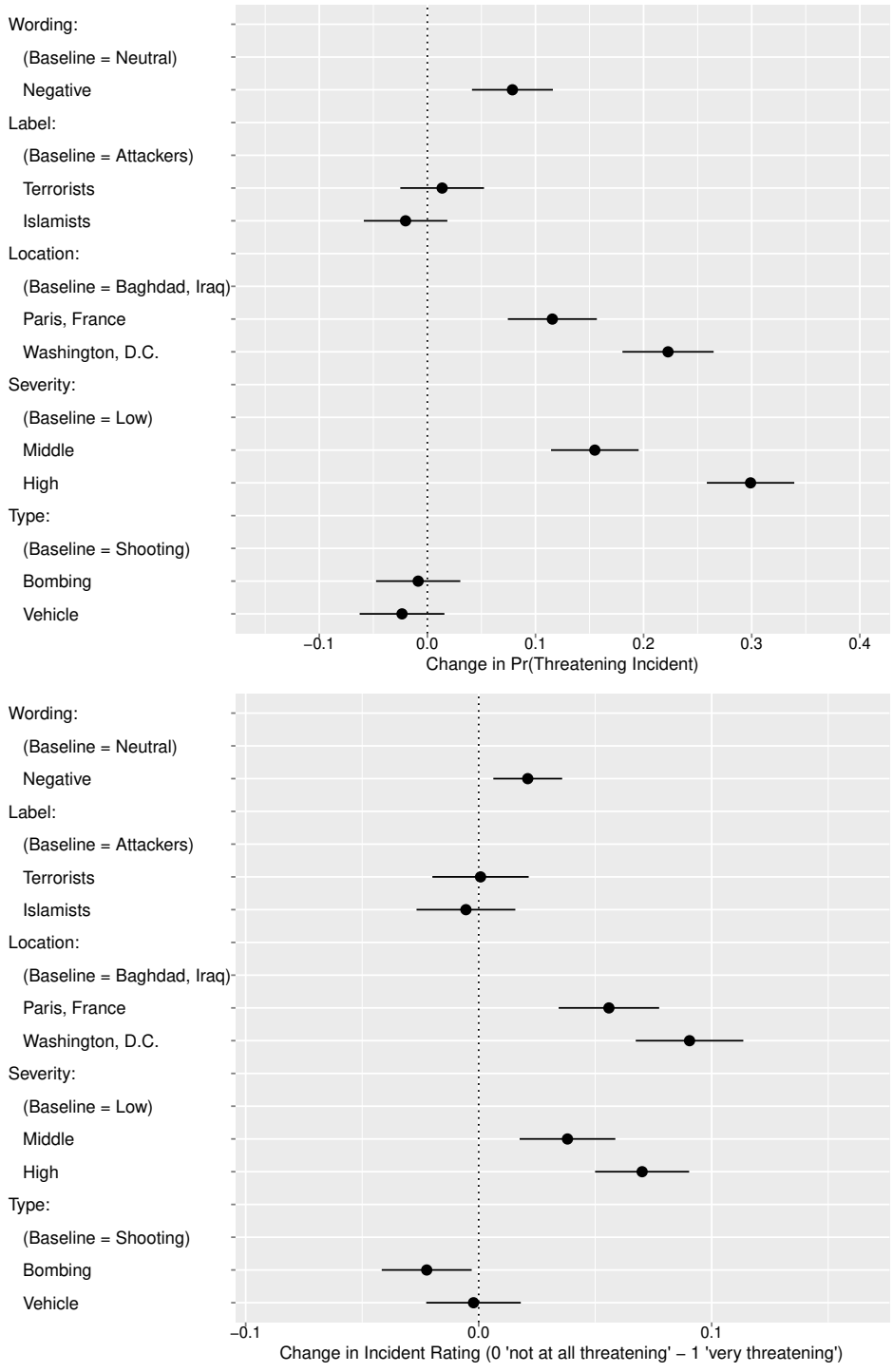

Figure 1: Marginal effects on threat perception by attribute and level. The top figure shows effects for the binary forced-choice outcome, the bottom figure shows the effects for the 1–7 Likert outcome, re-scaled to vary from 0 to 1. Estimates are based on the regression estimators with clustered standard errors; bars represent 95% confidence intervals.

ceptions of objectivity after threat perceptions and did not find any evidence of carry-over effects to subsequent rounds. This rules out the possibility that our question regarding objectivity could have primed respondents to better recognize subtle manipulations of article tone.

If respondents could recognize both framing devices, why did only article tone influence their threat perceptions? Literature in cognitive science suggests that in the kind of setting we consider where multiple article cues are presented to the reader, unless prompted, not all of them might be consciously recognized (Simons 2000). The lack of effect of the "terrorist" or "Islamist" labels on threat perceptions suggests that respondents recognized and consciously dismissed them. In contrast, the more subtle cues given through article tone were not consciously recognized, unless prompted, and thus still strongly affected respondents' threat perceptions—without them necessarily being aware of it.

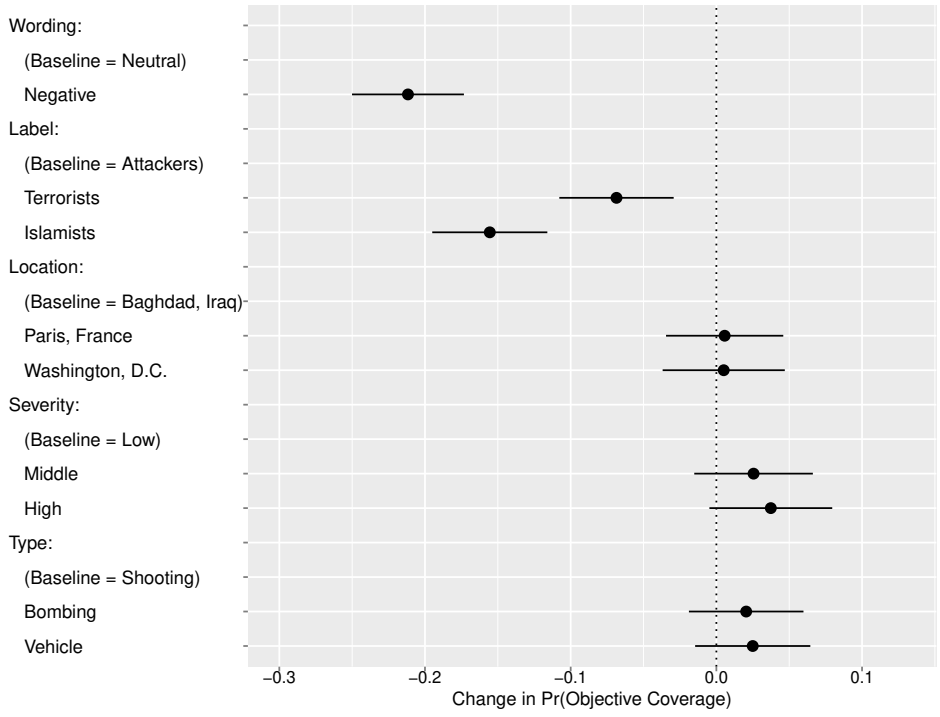

Figure 2: Marginal effects on the assessment of objectivity of the coverage by attribute and level. The figure shows effects for the binary forced-choice outcome. Estimates are based on the regression estimators with clustered standard errors; bars represent 95% confidence intervals.

A possible alternative explanation for the lack of effect of the "terrorist" and "Islamist" labels on threat perceptions is that readers treated the incident as an act of terrorism regardless of whether the perpetrators were labeled as such.[6] However, this line of reasoning is effectively ruled out by our *objectivity* outcome (Figure 2) where the use of the "terrorist" label resulted in distinctly negative estimates, particularly among those respondents identifying as Democrats (see Online Appendix H, Figure S1). We also do not find any significant interactions between the effect of article tone and labels, neither for threat perception nor objectivity (see Online Appendix L for details).

Conclusion

The way in which certain events are reported and framed in the media can substantially influence their public perception. For this U.S. adult sample of respondents, the results suggest that the most-threatening incident is one which occurred on American soil, entailed a high number of casualties, and is reported on with a range of sensationalist, negative adjectives. In this complex informational setting, respondents do not appear to pay equal attention to—or at least weigh, equally—all information. Specifically, the consistently strong effects of the location and severity of the reported incident suggest that these are the main facts driving respondents' threat perceptions. This multidimensionality, and therefore enhanced realism, is one of the key strengths of conjoint analysis. Notably, the virtually nonexistent effect of labels is interesting in a policy context because it suggests that such labeling choices made by the news media do not necessarily exaggerate threat perceptions when included in coverage that contains other information. In contrast, we do find a strong effect of article tone—even if embedded with other language features.

Our study thus highlights why it is important to carefully disentangle these two dimensions since other than for common labels, individual threat perceptions seem to be affected by more subtle wording choices that alter overall article tone. One methodological limitation of the design employed is that the *article tone* attribute consisted of a composite treatment: Switching from the neutral to the negative level entailed adding *multiple* neg-

ative adjectives. The effects of article tone are thus not informative as to *which specific word* prompted the change in outcomes. However, similarly, setting the tone of coverage in the real world often necessitates more than just changing a single adjective. And while our survey sample consisted of respondents based in the U.S., the framing devices examined here can be found in many Western media outlets and therefore bear relevance well beyond the geographic scope of our sample. Likewise, our findings are relevant beyond media studies, providing a basis for further research in political psychology as well as public opinion and security studies to evaluate what factors increase perceived threat for the public.

Media outlets nonetheless might continue to use this language, despite the risk of fueling otherwise unjustified fears, because sensationalist eyecatchers such as "terrible" generate attention and, thus, commercial success (Schmid 1989). Yet, beyond enhancing feelings of insecurity about terrorism among the public, sensationalized or exaggerated negative reporting of disasters has also led to economic consequences in decreased tourism (Walters et al. 2016) and distorted perceptions of events, such as the extent of "looting" and civil unrest (Tierney et al. 2006). It is therefore all the more important for media to be cognizant of how the ways they describe events impacts their readers' perceptions, to exert "voluntary self-restraint" (Wilkinson 1997: 63), and to carefully review their lexical choices to avoid injecting unnecessary editorial tone.

Notes

[1]We choose a paired-profile design, as opposed to the evaluation of single vignettes, because it performed well in a validation study in another issue context (Hainmueller et al. 2015).

[2]See Online Appendix B for a more detailed and disaggregated derivation of our contextual hypotheses.

[3]All aspects of this study were reviewed and approved by an institutional review board.

[4]We show in Online Appendix G that our conjoint design features sufficient statistical power to discriminate among effects several folds smaller than our main effects. This suggests that effects we detect are well-powered and, in particular, the null effect for H1 is not simply a consequence of lack of statistical power.

[5]In Online Appendix H we show that perceived objectivity for different labels is not homogeneous across respondents: individuals identifying as Democrats appear more responsive to subtle differences in labels than those identifying as Republicans.

[6]In a study with similar null finding for "terrorism", Woods (2011: 206) noted that "among the 86 subjects whose test article did not include any mention on 'terrorism,' only 57% responded correctly that the term was not used."

Supplemental Material

The supplementary Online Appendix for this article is available online through the journal website at https://doi.org/10.1177/1532673X20972105. Full replication materials are available through *Code Ocean* and can be accessed at https://doi.org/10.24433/CO.0762621.v1.

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